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舌板瘿蚊属中国种类记述

(双翅目:瘿蚊科)*

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舌板瘿蚊属 (*Coquillettomyia* Felt 1908) 属于瘿蚊亚科 (Cecidomyiinae) 瘿蚊总族 (Cecidomyiini), Mamaev (1968) 建立 Coquillettomyiina 亚族,将此属包括其中。全世界已记载共17种,分布记录包括欧洲、前苏联中亚和远东地区、印度和北美。已有的生物学记录均说明幼虫营自由生活 (Möhn, 1955)。我国以往此属尚无记录。本文根据我们近年所收集的标本,共记载 5 种,包括 4 个新种和 1 个中国新记录种。模式标本存南开大学生物系。本文中长度单位均为 mm。

1. 双齿舌板瘿蚊 *Coquillettomyia bidenticulata* 新种

雄虫: 体长 1.2。翅长 1.5, 长为宽的 1.7 倍。触角第 3 鞭节基结长: 结间茎长:中结+端结长:端茎长=1.0:1.4:2.0:1.6。下唇须 4 节,第 1 节短,第 2、3 节约等长, 稍长于第 1 节,第 4 节细长,较长于第 3 节。前足腿节与胫节约等长,短于第 2 跗节, 中、后足腿节、胫节和第 2 跗节约等长; 所有爪具齿,爪在基部 1/3 处弯曲, 爪间突长不超过爪的弯曲处。外生殖器如图 1:尾须二叶状,中央浅凹。肛下板较小,端部圆突, 伸达阳茎复合体的一半处。抱器基节亚基部内缘约成宽阔的低三角形,其上无刚毛。抱器端节基部宽,然后渐细窄,端部具齿。阳茎复合体伸长,骨化强,稍短于抱器基节,干部两侧略平行, 端部渐扩大,端缘平截。阳茎侧突位于复合体端部两侧,狭片状,向背面隆升,末端成小角状向后伸出于复合体端缘两侧。复合体端缘中央背面具一对略向外弯曲的小齿。

正模♂,黑龙江尚志帽儿山, 1988. VII. 22。

此新种与前苏联远东地区分布的 *C. spinosa* Mamaev 在阳茎复合体端部加宽这一特征有类似之处,但新种此一构造远长,更为伸出,且在端缘上具有一对狭齿状构造,均与 *spinosa* 明显不同。

2. 球尾舌板瘿蚊 *Coquillettomyia bulbiformis* 新种

雄虫: 体长 1.9, 翅长 2.2。长为宽的 2.6 倍, Rs 较明显。触角柄节大于梗节, 鞭部第 1、2 节愈合; 第 3 鞭节基结长:结间茎长:中结+端结长:端茎长=1:17:1.7:2.0。下唇须第 1 至第 4 节逐渐加长。 腿节和胫节短于第 2 跗节, 第 4 跗节长为第 5 跗节的 2.1—2.3 倍。外生殖器如图 2:尾须二叶状,呈较宽阔的"V"形裂,端缘略圆。肛下板长,直,完整,具短毛被,端缘宽圆,远伸过尾须末端,稍伸过抱器基节末端。抱器基节基部突起为宽

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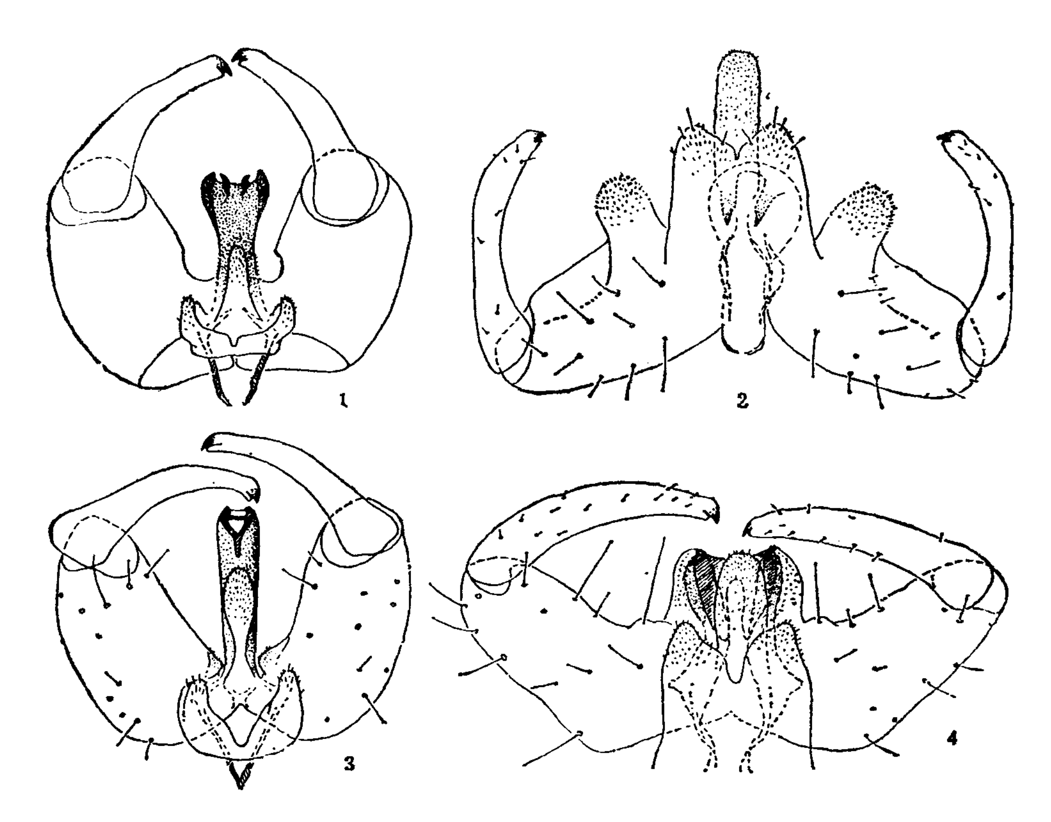


图 1—4 雄虫外生殖器背面观

1.双齿舌板瘿蚊 *Coquillettomyia bidenticulata* sp. nov.; 2.球尾舌板瘿蚊 *Coquillettomyia bulbiformis* sp. nov.; 3.长尾舌板瘿蚊 *Coquillettomyia elongata* sp. nov.; 4.截尾舌板瘿蚊 *Coquillettomyia truncata* sp. nov.。

短的圆柱形,大,具短密毛被,端圆。抱器端节细长,中部略细,端部具齿。阳茎复合体骨化,端部加宽成球形,略向背方弯曲,然后向头部方向伸出两支大体平行的阳茎侧突,成粗棘状,其亚端部内侧有一缺刻,末端尖。

正模♂,云南武定狮子山(2,200m),1988. VIII. 6,刘国卿采。

本种以特殊的阳茎复合体构造与属内其他种明显区别。与全北区分布的 *C. dentata* Felt 在外生殖器总体结构上虽然接近,但本种个体明显较大(*dentata* 体长 1.0),尾须较为深裂,阳茎侧突指向头部方向,亚端部具缺刻等,与 *dentata* 不同。

3. 苔草舌板瘿蚊 *Coquillettomyia caricis*(Möhn 1977)中国新记录

Picrodiplosis caricis Möhn 1955, Dt. ent. Z., 2:138.

观察标本:3♂♂,黑龙江,哈尔滨,1988. VII. 23,卜文俊采;2♂♂,内蒙古,呼盟图里河,1988. VII. 9,卜文俊采;1♂,内蒙古,固阳,1988. VIII. 8,卜文俊采;1♂,四川,灌县青城后山,1989. VII. 23,卜文俊采(灯诱)。

4. 长尾舌板瘿蚊 *Coquillettomyia elongata* 新种

雄虫:体长 1.4。翅长 1.8—2.5,长为宽的 2.8 倍,Rs 不明显。触角第 3 鞭节基结长:结间茎长:中结+端结长:端茎长=1:0.7:2.0:1.2。下唇须 4 节,第 1 节较短,第 2、3 节

约等长，第 4 节最长，稍长于第 3 节。前足胫节和第 2 跗节等长，稍长于腿节；中、后足腿节、胫节和第 2 跗节逐次减短；第 4 跗节长为第 5 跗节的 1.7—1.8 倍。各足的爪均具齿，爪在基部 1/3 处弯曲成直角，爪间突短，不超过爪的弯曲处。外生殖器如图 3，尾须二叶状，中部深裂，端缘圆突。肛下板约成狭窄的网球拍状，具短小毛被，基部较宽，中段显然狭细，端部椭圆形，宽同阳茎复合体，伸达抱器基节长或阳茎复合体长的 2/3 处。抱器基节具稀疏长刚毛，基部内侧具不大的三角形片状突起，其上具细密毛被。抱器端节向端渐细，端部具齿。阳茎复合体骨化，狭长，直筒状，与抱器基节等长，略向背方弯曲，末端为一三角形孔，孔缘两侧围以强骨化环状的阳茎侧突，在背侧向前方会合后，在背中线上向前延伸，于不远处终止；此外，还有一骨化横梁横跨孔口，连结两侧的阳茎侧突。

正模♂，黑龙江尚志帽儿山，1988. VII. 22，卜文俊采。副模 1♂，四川理县米亚罗，1989. VIII. 21，卜文俊采。

本种以触角鞭节结茎长度比例、较短的肛下板、以及具特色的阳茎构造等区别于本属其他种类。又此种雄虫外生殖器总体结构与 *Lestodiplosis* 属有类似处，但爪有明显的细齿，并在基部弯曲，证明其为 *Coquillettomyia* 属的一员。

5. 截尾舌板瘿蚊 *Coquillettomyia truncata* 新种

雄虫：体长 2.0。翅长 2.7，长为宽的 2.7 倍。触角第 3 鞭节基结长：结间茎长：中结＋端结长：端茎长＝1:1.7:2.1:1.8；鞭节结间茎全部和端茎基部均具成排的微毛。下唇须 4 节，第 1 节短，第 2、3 节等长，长于第 1 节，第 4 节细长，长于第 3 节。足的腿节长于胫节，短于第 2 跗节；第 4 跗节长于第 5 跗节 2.3 倍；前足爪具齿，基部 1/3 处弯曲，爪间突不伸过爪的弯曲处。外生殖器如图 4，尾须较宽大，二叶状，中部深裂，各叶成末端圆钝的亚三角形。肛下板较长，宽舌状，伸达阳茎侧突末端的水平位置，末端宽圆。抱器基节相对狭长，具稀疏长刚毛，基部内侧突起较大，具短密小刺突，外侧拱突，端略圆。抱器端节细长，均匀微弯，向端渐细，具稀疏小毛，端部具齿。阳茎复合体基部骨化略弱，中、端部骨化强，中部宽阔呈凹片状，向背方弯曲，然后向头向渐窄并伸出两支平行的阳茎侧突，成粗棘状，末端略尖。

正模♂，四川理县米亚罗，1989. VIII. 21，卜文俊采(灯诱)。

本种与古北区分布的 *C. caricis* (Möhn) 接近，但本种触角鞭节结间茎具短毛被，阳茎复合体中部呈宽片状向背尾方向弯曲，端部二刺平行伸出而不扭曲交叉与 *caricis* 不同。

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ON THE GENUS *COQUILLETTOMYIA* FELT FROM CHINA (DIPTERA: CECIDOMYIIDAE)*

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In this paper the gall midges of the genus *Coquilletomyia* Felt are recorded from China for the first time, including *C. caricis* (Möhn 1955) and 4 new species. All the materials are preserved in the Department of Biology, Nankai University, Tianjin.

1. *Coquilletomyia bidenticulata* Bu et Zheng, sp. nov. (fig. 1)

Male: Body length 1.2mm. Wing length 1.5mm, length = 1.7 × width. Length of 3rd flagellomere basal enlargement: basal stem: apical enlargements: apical stem = 1.0:1.4 2.0:1.6. Segment I of labial palpus short, II & III subequal in length, slightly longer than, I, IV slender, slightly longer than III. Fore femora and tibiae subequal in length, shorter than 2nd tarsomere, femora and tibiae of middle and hind legs subequal to 2nd tarsomere in length. Claws of all legs dentate, bending at basal 1/3, empodium not surpassing the claw bending. Cercus bilobed, medianly broadly and shallowly incised. Hypoproct slender, tapering, minutely pubescent, apex rounded, reaching half the length of aedeagal complex. Gonocoxite slightly enlarged subbaso-medially, smooth and hairless; baso-medially without lobe-like projections. Gonostylus broad basally, tapering apicad, apex toothed. Aedeagal complex elongate, protruding, sclerotized, apical half (aedeagal sheath) broadened, subquadrate, apical margin truncate, with 2 small slender tooth-like structures arising just before apical margin. Parameres embracing aedeagal sheath laterally, thickly sclerotized, slender, slightly arcuate and raised dorsad, tapering cephalad.

Holotype ♂, Heilunjiang: Shangzhi (47.5°N, 130.4°E), July 22, 1988.

The apically widened aedeagal complex shows some affinity with *C. spinosa* Mamaev, but this structure is much longer and more protruding in the new species and the slender tooth-like structures on the apical margin are characteristic too.

2. *Coquilletomyia bulbiformis* Bu et Zheng, sp. nov. (fig. 2)

Male: Body length 1.9mm. Wing length 2.2mm, length = 2.6 × width. Scape larger than pedicel; length of 3rd flagellomere basal enlargement: basal stem: apical enlargements: apical stem = 1:1.7:1.7:2.0. Length of palpal segments gradually increased from I to IV. Femora and tibiae shorter than 2nd tarsomere, 4th tarsomere length = 2.1—2.3 × 5th tarsomere. Cercus bilobed, broadly incised into a "V"-shaped cleft, apex of lobe rounded. Hypoproct long, straight and entire, pubescence

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short and dense, apex broadly rounded, extending far beyond apex of cercus, a little longer than gonocoxite. Baso-medial lobe of gonocoxite prominent, shortly cylindrical, broad, densely pubescent, apex rounded. Gonostylus slender, medianly slightly narrowed, apex toothed. Aedeagal complex strongly sclerotized, apically widened, bulbiform, bending dorsad, apically dividing into 2 sub-parallel stout spine-like parameres, recurving cephalad, its inner margin indentate subapically, apex sharp.

Holotype ♂, Yunnan: Wuding (25.5°N, 102.3°E), alt. 2200m, Aug. 6, 1988, Liu Guo-qing leg.

The extraordinary structured aedeagal complex distinguished this new species from the others of this genus. Though somewhat allied with *C. dentata* Felt, but differed in larger size, deeper incised cercus and cephalad-recurved parameres.

3. *Coquillettomyia caricis* (Möhn 1977) new record from China

Heilunjiang: Harbin (45.7°N, 126.6°E); Nei Mongol: Tulihe (50.4°N, 121.7°E), Guyang (41.0°N, 106.2°E); Sichuan: Guan Xian (31.0°N, 103.6°E).

4. *Coquillettomyia elongata* Bu et Zheng, sp. nov. (fig. 3)

Male: Body length 1.4mm. Wing length 1.8—2.5mm, length = 2.8 × width. Length of 3rd flagellomere basal enlargement: basal stem: apical enlargements: apical stem = 1:0.7:2.0:1.2. Labial palpus segment I short, II & III subequal in length, IV the longest, slightly longer than III. Front tibiae as long as 2nd tarsomere, slightly longer than femora; femora, tibiae and 2nd tarsomere of middle and hind legs shorter; 4th tarsomere length=1.7—1.8×5th tarsomere. All claws dentate, claw perpendicularly bending at basal 1/3, empodium short, not surpassing the bending point of claw. Cercus bilobed, medially deeply incised, apex rounded. Hypoproct racket-shaped, with minute pubescence, widened basally, medially strongly narrowed, apical portion oval, as wide as aedeagal complex length or gonocoxite length. Gonocoxite with sparse, long setae, baso-medial lobe small, plate-like, subtriangular, with minute pubescence. Gonostylus slender, tapered, apex toothed. Aedeagal complex sclerotized, slender and elongate, attaining to apex of gonocoxite, smoothly bending dorsad, apex with a large opening, lateral rims embracing the opening highly sclerotized and raised, convergent dorsally and meet at midline (parameres), then extending cephalad, a transverse bar crossing the opening connecting with 2 parameres.

Holotype ♂, Heilunjiang: Shangzhi (47.5°N, 130.4°E), July 22, 1988, Bu Wen-jun leg.; paratype 1♂, Sichuan: Miyaluo (31.6°N, 102.8°E), Aug. 21, 1989, Bu Wen-jun leg.

The straight, elongate aedeagal complex and narrow-waisted hypoproct is unique in this genus. The overall structure of hypopygidium may remind a *Lestodiplosis* pattern, but the dentate and basally bent claws lead the new species to genus *Coquillettomyia*.

5. *Coquillettomyia truncata* Bu et Zheng, sp. nov. (fig. 4)

Male: Body length 2.0mm. Wing length 2.7mm, length = 2.7×width. Length of 3rd flagellomere basal enlargement: basal stem: apical enlargements: apical stem=

1.0:1.7:2.1:1.8, all over basal stem and base of apical stem covered with minute pubescence. Segment I of labial palpus short, II & III equal in length, longer than I, IV slender, longer than III. Femora longer than tibiae, shorter than 2nd tarsomere; 4th tarsomere length = 2.3 × 5th. Claws of fore leg dentate, bending at basal 1/3, empodium not surpassing the bending point of claw. Cercus broad, bilobed, deeply incised, lobes sub-triangular, apex rounded. Hypoproct rather long, broadly linguiform, extending to apex of aedeagus, apex broadly rounded. Gonocoxite comparatively narrow, with elongate setae, basal lobe prominent, shagreened, outlateral margin arch, apex slightly rounded. Gonostylus slender, slightly and evenly bending, tapering, with small sparse setae, apex tooth. Aedeagal complex strongly sclerotized, plate-liked, widened, slightly concave and bending dorsad in the middle, apical dividing into 2 paralleled stout spine-liked paramere, recurving cephalad.

Holotype ♂, Sichuan: Miyaluo (31.6 N, 102.8E), Aug. 21, 1989, Bu Wen-jun leg. (light-trap).

Similar to C. caricis (Möhn), the differences are: basal stem of antennal flagellomere minutely pubescent; middle part of aedeagal complex widened, slight concave and bending dorsad, 2 apical stout spine-liked paramere paralleled, not crossed.